

Viewpoint

From Einstein to Elephants:

Unlocking the Innovative Mindset

Geoffrey Marlow

Innovation, which can be defined as „creating value in new ways,“ isn't limited to radical changes in technologies, products, and manufacturing processes. It can also help frame and position brands – or even whole organizations – and provide new access routes to markets. *Fortune* magazine described Coca-Cola as the world's most innovative company because of the creative ways it has found to add value to a product that has not essentially changed in 95 years. Innovation can also take the form of new ways of working, new business processes and infrastructures, and better staff management and career development.

How can you build an innovative culture that harnesses the collective intelligence of your organization? Essentially it's a matter of changing mindsets to help create alignment between people's aspirations and the larger purposes of the organization. Such alignment cannot be imposed. It must be drawn out individually and collectively – a process that calls for more fundamental change in values and practices than is achieved by the typical organizational change initiative.

In this article I will expose the dangers of limited perspectives and frozen mindsets, and I will describe a tool that helps companies overcome these barriers to innovation.

Cambridge Consultants Limited – Arthur D. Little's technology-innovation center in Europe – enjoys a culture that effectively stimulates innovation. Since CCL's formation in 1960, in the climate that produced the „Cambridge Phenomenon,“ its culture has valued individuals on the basis of their contributions to team success. Business and career development are inseparable and essentially aspiration-led. Values of openness, fairness, trust, and commitment are loyally guarded. Challenges to management thinking are expected, not suppressed, and people are acutely aware of the value they deliver for others.

About 10 years ago, one of our clients said that he liked working with our technical people better than his own, and asked, „How can I get my staff to behave more like yours?“ What he wanted was more focus, more commercial awareness, and, above all, more team spirit.

We helped by introducing to his organization some of our ways of doing things – in areas such as staff appraisal and career development schemes, project management roles and responsibilities, project control, and reporting procedures for progress and finance. We also helped to institutionalize progress and design reviews that focused not on „Will it work?“ but „How can it be better?“

What is it that makes some organizations truly innovative, while others find innovation elusive? At CCL, we have inherited „innovation genes,“ such as insatiable curiosity, a healthy disrespect for conventional thinking, and an openness to new ideas, whoever's they may be. The organization has avoided the stagnation effect of resting on past laurels by constantly moving forward. Whenever an area of business based on a current innovation has grown to a size where it could compromise the spirit of continual renewal, the company has spun it off as a new business. Some of these spin-offs have been product manufacturers, which were started with management and equity backing from CCL and then outgrew it in terms of staff numbers, revenues, and market capitalization. Other offspring have assumed the form of look-alikes, seeking to exploit the economies of scale available to those who specialize in a narrow range of standardized market offerings.

For CCL, and indeed for all of Arthur D. Little, keeping our culture highly innovative may be easier than it is for some of our clients. After all, our „product“ is innovation itself – as translated into our clients' success. Among companies with more tangible product lines, changing direction is often most challenging for those that are dominant in their fields. The IBM effect – as in „*nobody ever got fired for buying IBM.*“ – can seep in to ossify the mobility of those who believe too much in their own supremacy.

Examples of those who fail to see the road to the future are often cited with hilarity. Take Harry Warner of Warner Brothers Studios, who commented in 1927 on the advent of soundtracks for moving pictures: „*Who the hell wants to hear actors talk?*“

Or take the senior management at Procter & Gamble when the disposable diaper was first suggested. According to diaper business folklore, P&G was conducting market research to find out what housewives liked about their cleaning products for soiled diapers. Inspired by comments of the form, „We don't like *anything* about washing diapers,“ a P&G team came up with the idea for the disposable diaper. (The folklore unfortunately is silent on how such an innovative insight actually came about; I would be very interested to hear from anyone who knows.) The team set about assessing the opportunity, estimating market volumes, projecting cash flows and profit margins, and preparing a presentation for P&G top management. The latter sat patiently through all the

material, reviewed the market projections, and made it clear that they were impressed with all the work the team had done in analyzing the opportunity. „Just one question,“ they asked finally, „Where’s the soap?“

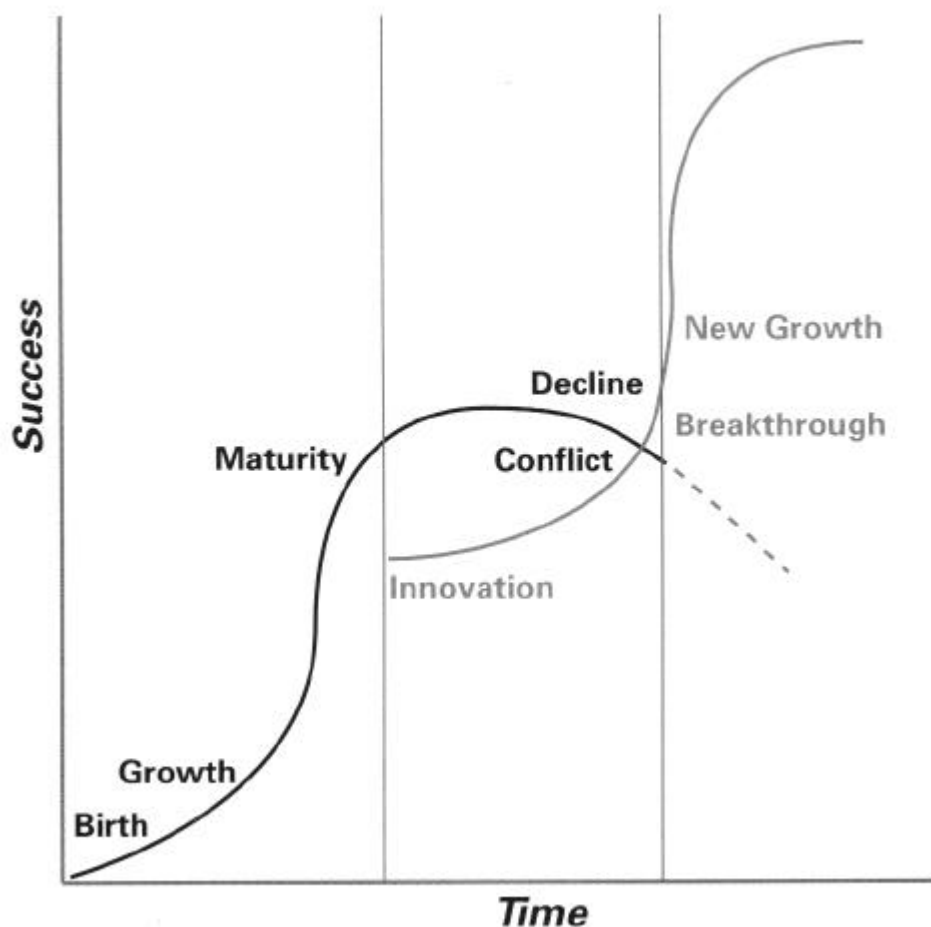
In some organizations, „where’s the soap?“ is now a catch phrase representing the typical knee-jerk reaction that occurs when major new business opportunities challenge the historically perceived *raison d’être* of the organization.

Of course, Warner and P&G both woke up to the potential opportunities and went on to enjoy significant market success. But not all organizations are so fortunate. MIT Professor James Utterback¹ cites the 18th-century New England ice cutters, an industry centered on the Boston area. At the time when Arthur Dehon Little was first setting up shop just down the road (1880s), the ice-cutting industry was shipping 25 million tons of ice per year, some of it as far afield as India and Hong Kong. Responding to increasingly intense competition, the industry leaders, such as Frederick Tudor’s Tudor Ice Company, employed as a competitive weapon the very latest technology: steam-powered saws and winches, insulated storage and transportation, etc. *Yet* by the early 1900s the whole industry had melted away. Ice cutting had been superseded by the refrigerator. And the Tudor Ice Company discovered the cold, hard fact that the price of missing the road to the future can be to have no future at all.

Charles Handy demonstrates Bacon’s observation that time is the greatest innovator using the sigmoid, or ‘S’, life cycle curve² (Exhibit 1). Any product, technology or industry first emerges – the birth phase – then its uptake, utilization, or market increases – the growth phase – before slowing – the maturity phase – and eventually dying out – the decline phase. The secret to long-term competitive advantage is to continuously excel at identifying and investing in the next „S“ curve before the previous one nose-dives and drags the business down with it.

Exhibit 1

Innovation and the Sigmoid Curve



Adapted from *The Empty Raincoat* by Charles Hardy.

In technology and product innovation, it is often possible – if you know what to look for – to see the future coming (albeit with a shorter and shorter „event horizon“). However, when it comes to an organization or an industry changing at the *raison d'être* level, it is rarely easy to identify the new curve unless, of course, you happen to be the person or people creating it. You are far more likely to be creating it if your culture not only allows but actively encourages a variety of viewpoints. This brings us to Einstein.

Einstein

Albert Einstein is an exemplar of both the potential impact of those who think differently and the way they are often regarded by the organizations in which they find themselves.

Young Albert was by no means a star in the eyes of the academic institutions of his day. In fact his early school reports went so far as to say that he would never amount to much. To paraphrase Bill Shankley, the late great manager/coach of England's legendary Liverpool Football Club, Einstein's lack of education meant he had to learn how to think for himself.

The development of relativity theory, regarded by some as the greatest achievement of the reasoning mind, can be directly attributed to Einstein's propensity to think differently. One afternoon, relaxing outside in the sunshine, he was playing with the effect of the sunlight in his eyelashes. He wondered what it would be like to travel along on a beam of light. Armed with this new perspective, he pursued the line of inquiry all the way to what is probably the world's most famous mathematical equation: $E=mc^2$.

Einstein refused to be constrained by conventional thinking, being only too aware of its limitations. His commentary on such as thinking is concise, compelling, and conclusive: „Common sense is the collection of prejudices acquired by the age of 18.“ (Perhaps if he had worked in a business organization he might have said the age of 30.)

Fortunately, he also offered insights into its solution: „The significant problems which we face will not be solved by using the same level of thinking which created them.“

In a nutshell, what Einstein's example shows us (and what confirms our experience of stimulating innovation within both Arthur D. Little and our clients' organizations) is that to innovate, you need people who see things differently. *You* also need an environment in which these perspectives and insights can be exchanged in an open, honest, and supportive manner.

Any organization that is serious about innovation needs to cultivate this tolerance of diversity of views as a deeply held value. All of which is easy to say, of course, but not so easy to do. Leaders may think (and, in our experience, frequently do) that: „I got here today by understanding this business better than anyone else. That's what makes me successful. Now I'm supposed to listen to people whose views are so way off that I wonder sometimes if we're from the same planet?“

So here is the basic challenge: *To innovate, we have to be able to understand, trust, and work with people who see reality differently from the way we see it.*

We can perhaps begin to understand the difficulty of this challenge, through the following metaphor: Three individuals are discussing a business situation. „We really need to increase the area of the square if we are to meet our quarterly forecast,“ says the first. „I agree that we need to grow, but what do you mean by 'the square'? Surely you mean the circle,“ says the second. „I don't know what you guys are talking about,“ says the third. „Anyone can see it's a triangle we're looking at here.“

Sound familiar? It certainly does to us. We find it to be a surprisingly typical dysfunction that causes serious conflict among colleagues in different functional or geographic areas within the same organization. The normal attitude taken by those responsible for resolving such disputes (usually higher management) is that since obviously only one view can be right, the other two must be wrong. And if, as is often the case, higher management itself holds one of the viewpoints, it's easy to guess which one tends to prevail – which of course is no recipe for innovation.

Over the years we have helped many clients in disparate countries and cultures become more innovative. Many of these clients had already become quite adept at business process reengineering (BPR). The problem with BPR, however, is that it optimizes what you do today, while what you need to do tomorrow may be quite different. Taken to its logical extreme, BPR can enable you to become perfect at what nobody actually wants any more!

Mindsets, in contrast, shape the way people think, see, and act in relation to one another. Change at this level has much more leverage because it leads to new ways of working that are created by those involved, rather than being imposed by managers.

Mindset conflicts are probably the most common and pervasive barrier to harnessing collective intelligence within organizations. Such conflicts arise because „reality“ has more dimensions than can be seen from any individual perspective. Nonetheless, each observer typically believes that he or she is seeing the entire reality, that his or her view is self-evidently right, and that all other views are therefore wrong. And just as mindsets condition perception, so perceptions condition experienced reality, thereby reinforcing the original mindset.

So how can you change mindsets?

Elephants

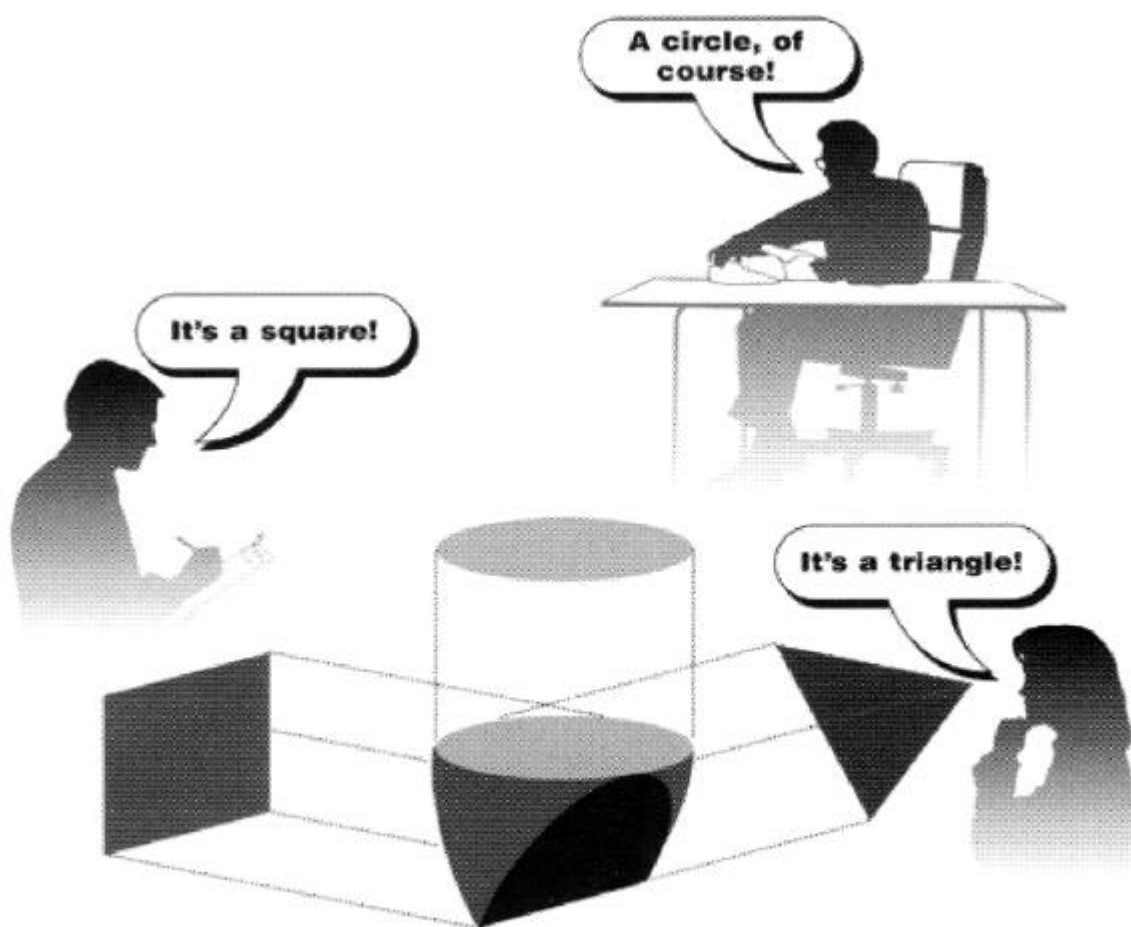
Arun Maira recently exposed some of Arthur D. Little's latest thinking on how this can be achieved in what we term the „Fluid-Network Organization.“³ He pointed out that to create such innovative organizations, we need new concepts and tools to reframe our understanding, create greater leverage, and evoke, enable, and engage new levels of thinking. This reflects R. Buckminster Fuller's observation: „If you want to get people to think differently, don't tell them to think differently; instead, give them a tool which makes them think differently...“

One such simple tool that has proved popular with clients is the (Arthur D.) „Little Elephant“ – a physical model that exemplifies, in simplified form, the popular Eastern story of the three blind people encountering an elephant for the first time. „It is large and round like a tree,“ says the first, grasping a leg. „No, it is long and tubular like a fangless snake,“ says the second, holding its trunk. „You are both wrong. It is flat and flexible like a large leathery leaf,“ says the third, touching an ear. Before long the three are fighting with each other about their different perceptions of a reality that none of them sees in its full dimensions.

The „elephant“ is a wooden object that when viewed from different angles appears as a circle, a square, or a triangle (Exhibit 2). Elephant thinking recognizes that the various two-dimensional (2D) views that people hold about a common situation merely represent the different facets of a higher-order, three-dimensional (3D) reality as it's perceived from the observers' respective viewpoints.

Exhibit 2

Perspectives on the „Elephant“



In the absence of this insight, factions tend to form around different 2D perspectives, and members of any given faction begin to consider their colleagues – and/or their customers, suppliers, and competitors – who see a different 2D aspect of the bigger 3D picture as incompetent, ill-intended, or both. If unaddressed, this problem of different perceptions, experiences, and mindsets simply gets worse over time. Consequently, the very people whose diversity of views holds the key to innovation, and hence the future success of the organization, find that they cannot even speak to each other – let alone work together.

This is why so frequently in human relationships (and in almost all organizations), those with different beliefs come to be regarded as „alien.“ Just as a sighted person would be able to see clearly that each of the blind men had valid perceptions, „elephant thinking“ offers insight into a higher level of thinking that enables resolution of the conflicts that were insoluble at the lower level.

One of our clients, a multinational company that regarded itself as a provider of expert systems solutions, was having difficulties resolving new product investment priorities. Its business served three main market areas – military operations, emergency services, and electricity supply – each representing about a third of total turnover. Its sales organization had evolved in alignment with these three areas, with each area’s sales manager now reporting that its customers wanted different new products and services, all of which were competing for limited product-development resources.

Their dilemma was put to us: „All three market areas are equally important to us, and we cannot afford to lose any of them, but we do not have the resources to service all three. What should we do?“ We conducted a workshop with the key stakeholders and asked them to describe the three businesses (equivalent to the faces of the elephant) from their respective customers’ perspectives.

Each set of customers had a complex management problem (troop logistics, fire and ambulance operations, power distribution) that could change dramatically with little or no notice. Such changes might include, for example, the unexpected loss of a fuel dump, a major disaster such as a plane crash, or the failure of an important substation (e.g., through a lightning strike). Each such event would trigger a need for rapid and major replanning of operations, far more complex than a human being could manage.

Using elephant thinking, the company soon saw that it was not a generic expert systems supplier at all. In fact, its specialty was the supply of decision and planning support tools for complex operations that needed major replanning in the event of sudden changes.

This description (long-winded though it may be) represented a new „S“ curve in the *raison d’être* of its business. After arriving at this shared understanding, the leaders of the company were able to refocus their investment activity to benefit all three current business areas. And they soon added a new market area – financial dealing systems – something they would not have been able to countenance under their old mental model.

Those familiar with the conduct of true dialogue will recognize the elephant as a thinking tool that helps balance advocacy and inquiry (for an excellent description of the practice of dialogue see *The Fifth Discipline Fieldbook*⁴).

Dialogue supports the exchange and cross-fertilization of both tacit and explicit knowledge. It makes possible the diversity of perception and experience that is essential to the learning (and often more importantly the unlearning) that underpins organizational change and innovation.

Elephant thinking also stimulates the five disciplines of organizational change and innovation described by Peter Senge,⁵ that is:

- *Mental Models* are exposed, exchanged, and explored
- *Team Learning* is encouraged by understanding diversity of views
- *Shared Vision* is created by seeing the 3D rather than only the **2D** reality
- *Personal Mastery* is enhanced by enabling mutual learning and growth
- *Systems Thinking* is stimulated by encouraging „higher levels of thinking“

Implementing Change

It’s a common mindset that changing mindsets is a slow, high-risk „black art.“ But our experience demonstrates that it’s possible to achieve change rapidly. The key is that the change agent, whether internal or external to the organization, must maintain – and communicate – a very clear mindset throughout the process. This mindset holds firmly the attitude that all perceptions are valid and the belief (despite any evidence to the contrary) that all parties involved are competent and well intentioned. The change agent must seek to uncover everyone’s perceptions and understand how they arose. And then the change agent must create opportunities for learning experiences in which people share their different perceptions through constructive dialogue. (These learning

experiences can take various forms and employ a range of formal or informal tools and methodologies, such as those described in *The Fifth Discipline Fieldbook*.) Ultimately, the change agent must help people learn how to learn, together with their colleagues, on the job.

Interventions aimed at changing mindsets are most successful when they follow certain principles:

- Have a „headline objective,“ something people care about – otherwise their mindsets will not be challenged
- Involve key opinion leaders
- Ensure economy of means – find the key leverage points to achieve big returns from relatively little effort

The above approach will help protect the self-esteem of the people involved, encouraging their commitment and cooperation. Without commitment and cooperation, efforts to unlock innovation are doomed. But organizations that succeed in winning their staff members' commitment and active cooperation are uniquely able to harness the intelligence and ingenuity of their people.

It's interesting to speculate on how the New England ice cutters might have fared if they had taken advantage of elephant thinking. Whilst no doubt the people with a lot invested in the old „S“ curve would perceive that they had been hit by a technology discontinuity, elephant thinking suggests a deeper insight – that they simply hadn't understood their *raison d'être*. They thought they were ice suppliers – but their customers didn't want ice, they wanted cold. The Tudor Ice Company and its competitors had been in cold supply all along. When their customers could get their „cold“ in a better way, they did... and because of thinking at the wrong level – because of limited perspective – a whole industry missed the road to the future.

¹ James Utterback, *Mastering the Dynamics of Innovation*, Harvard Business School, 1994.

² Charles Handy, *The Empty Raincoat*, Chapter 3, Hutchinson, 1994.

³ Arun Maira, „Connecting Across Boundaries: The Fluid-Network Organization,“ *Prism*, First Quarter 1998.

⁴ Peter Senge *et al*, *The Fifth Discipline Fieldbook*, Nicholas Brealey, 1994.

⁵ Peter Senge, *The Fifth Discipline*, Currency Doubleday, New York, 1990.

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